Cross-cultural validation of switching costs: a four-country assessment

Measuring customers' perceived switching costs: a four-country assessment

Published at International Marketing Review Journal, Volume 31, issue 4, 2014

Dr Dahlia El-Manstrly*
University of Edinburgh Business School
29 Buccleuch Place
Edinburgh, EH8 9JS
Tel: +44 (0) 131 651 5321
Fax: +44 (0) 131 651 3197
E-mail: Dahlia.El-manstrly@ed.ac.uk

Structured Abstract

Purpose – The purpose of this article is to develop a cross-cultural scale of customers' perceived switching costs. Customers' perceived switching costs (PSCs) function as a powerful defensive marketing tool that restrains customers from switching.

Design/methodology/approach – Four sets of survey data were collected in the United Kingdom, Egypt, Germany, and China. An overall response rate of 86% was achieved across the four countries. Cross-cultural equivalence of the PSCs scale was assessed using multi-group confirmatory factor analysis.

Findings – Tests of configural, metric, and factor variance invariance confirmed that the PSCs scale is appropriate for meaningful cross-cultural comparisons.

Research Limitations/implications – Data was collected in four countries from the financial service context. Future researchers should test the short-form PSCs (PSCs-S) scale across different cultural and industrial contexts to enhance its generalizability. The cross-cultural PSCs-S scale presented here will enhance international marketing researchers' ability to test theory containing customers' PSCs as central variables, and provide managers with a measurement tool that they can use to better segment and manage their customers.

Originality/value – This study is one of the first to develop a cross-cultural PSCs scale. Despite the growth of research into customers' PSCs, research on the topic has been limited by the lack of a cross-cultural measurement instrument. The latter now furnishes the research community with the opportunity to gain a fuller understanding of switching behavior, to establish the scale's generalizability, and to make meaningful comparisons of perceived switching costs across cultures.

Keywords – Cross-cultural research, measurement invariance, switching costs, customer loyalty, UK, Egypt, Germany, China.

Article Classification: Research Paper.

Introduction

Customers' switching between service providers is growing as a result of increased competition, customer literacy, and Internet access (Hlavinka, 2011). For example, switching rates in the financial services industry have increased in recent years by an average of 15% (Barroso and Picón, 2012), leading service firms to attempt to understand customers' switching attitudes and behaviors (Sirgy et al., 2000), and to maintain bottom-line profitability. Additionally, there are growing calls from marketing researchers (e.g., Burnham et al., 2003; Jones et al., 2007; Ranaweera and Prabhu, 2003) to better understand the various drivers of switching behavior. A key driver of switching behavior, in addition to customer satisfaction, is customers' perceived switching costs (PSCs). As self-perception theory suggests (Zauberman, 2003), customers tend to view losses (e.g., switching costs) as more important than benefits (e.g., satisfaction). Tsai et al. (2006) found that switching costs better explained variance of repurchase intentions (59%) than customer satisfaction (36%). If customers' perceived switching costs outweigh the potential gains of (Dick and Basu, 1994), then switching costs give customers a strong incentive to continue buying from a service provider (Beggs and Klemperer, 1992). Thus, switching costs can decrease switching behavior and in turn increase customer loyalty (Chebat et al., 2011). In general, switching costs can also influence firms' competitive strategy and act as barriers to market entry (Klemperer, 1995).

Literature on switching costs (Barroso and Picón, 2012; Burnham et al., 2003; Jones et al., 2007) follows a multi-dimensional view as a one-dimensional view insufficiently captures the construct's complexity (Lages et al., 2008), masks individual effects of its dimensions (Whitten and Wakefield 2006), and inadequately assesses its relationships with other constructs (Barroso and Picón, 2012). Existing PSCs scales are predominately mono-cultural, and thus limited by the lack of a cross-cultural component. To allow for the generalizability of findings and to make meaningful cross-cultural comparisons (Parameswaran and Yaprak, 1987), a scale must be invariant across cultures (Ruvio et al., 2008); applying a scale developed in one country to other countries can reflect a built-in cultural bias, which in turn limits the scale's applicability across cultures (Scandura et al., 2011). More specifically, "if evidence supporting a measure's invariance is lacking, conclusions based on that scale are at least ambiguous and at worst erroneous" (Steenkamp and Baumgartner, 1998, p. 78). Therefore, researchers must ensure that the scales apply equally well across countries, measure the same constructs, and are stable in each country (Babin and Griffin, 1998; Berry, 1969; Craig and Douglas, 2000; Li and Karakowsky, 2001; Steenkamp and Baumgartner, 1998). Cadogan (2010, p. 607) contends that "international marketing research studies can play an important role in testing theories for their cross-national stability and further developing our understanding of international marketing across markets."

The aim of this article is to develop and test the validity and stability of a PSCs scale across four countries (the United Kingdom, Egypt, Germany, and China). Providing support for the psychometric properties of a cross-cultural PSCs scale and its generalizability will enhance scholars' confidence in using the scale (Ralston and Pearson, 2010). There is no single study on customers' perceived switching costs, to the researcher's knowledge, that includes the cross-cultural context of the United Kingdom, Egypt, Germany, and China. Engelen and Brettel's (2011) literature review indicated that, although several cross-cultural studies compare economically developed countries (e.g., France, Germany), few studies focus on economically emerging countries (e.g., China, Egypt).

This article makes three important contributions: in terms of theory, it provides a fuller understanding of customers' perceived switching costs and in turn switching behavior; methodologically, it develops a cross-cultural PSCs scale to measure customers' perceived

switching costs; and additionally, it provides international marketing managers with a tool to better segment their customers, to make meaningful cross-cultural comparisons and to reduce switching (Raimondo et al., 2011), which in turn can enhance bottom-line profitability. The role of perceived switching costs in reducing switching behavior is particularly important in the services context, as service customers are more likely to perceive higher levels of switching costs than physical goods customers, given the unique characteristics of services and the complexity of some products (El-Manstrly, 2010).

The remainder of this article is organized as follows: first, switching costs and their role in building customer loyalty are discussed. Second, the methodology is explained. The results of multi-group confirmatory factor analysis (MGCFA), assessment of the scale's psychometric properties, and measurement invariance are then presented. Finally, implications for international marketing researchers and managers, as well as further research directions, are outlined.

Theoretical background

Switching costs generally refer to one-off costs, losses, or sacrifices that customers associate with switching from one service provider to another (Burnham et al., 2003; Jones et al., 2007). Previous research has argued that switching costs influence customers' switching behaviors and loyalty, and moderate the relationship between customer loyalty and its antecedents (e.g., Jones et al., 2007; Klemperer, 1995; Lam et al., 2004; Rauyruen and Miller, 2007). More specifically, Gwinner et al. (1998) argued that long-term customers realize different types of relational benefits (e.g., psychological, social, economic), which increase the perceived risks associated with switching. Similarly, Colgate et al. (2007) argued that financial, social, and structural bonds prevent dissatisfied customers from switching to a competing service provider. In other words, the translation of customer satisfaction to customer loyalty is contingent on customers' perceptions of switching costs (Chandrashekaran et al., 2007).

Although researchers tend to view switching costs as one-off costs or losses, they do not agree on the nature of the dimensions of switching costs, which limits the understanding of the theoretical and managerial implications of these dimensions (Table 1). This lack of agreement has led researchers to develop various typologies of switching costs.

Insert Table 1 about here

Klemperer (1987) suggested one of the first typologies, with three types of switching costs: transaction, learning, and artificial (or contractual). Similarly, Guiltinan's (1989) meta-analysis proposed a typology that reflects four types of switching costs: contractual (penalties), set-up (set-up fees), continuity (opportunity costs), and psychological commitment (emotional costs). Klemperer's 1995 study extended his previous typology to include six types of switching costs based on the nature of investment involved: compatibility (investment in new equipment), transaction (investment in setting up a relationship), learning (investment in learning to use a product), risk (investment in learning about product performance), contractual (investment created by firms, such as discounts or penalties), and psychological (non-economic investment in feeling and emotions). However, two of the key empirical typologies of customers' perceived switching costs were those developed and validated by Jones et al. (2002) and Burnham et al. (2003).

Jones et al. (2002) proposed and validated a six-dimensional typology of switching costs: lost performance (lost benefits or privileges when switching from a known to an unknown service provider), uncertainty (perceived risks associated with performance of a new or unknown service provider), pre-switching search and evaluation (time and effort spent before switching to identify and evaluate alternative providers), post-switching behavioral and cognitive (time and effort spent after switching to learn the new provider's procedures and routines), set-up (first-time purchase costs, such as filling out paperwork with a new bank or explaining preferences to a new hairdresser), and sunk (psychologically relevant, economically irrelevant past expenditures) (Jones, 1998). These costs refer to the time, money, and effort invested in building a relationship with the current service provider, which are reinvested when customers switch to a new one. They also include customers' relationship-specific idiosyncratic investment, which is lost in switching (Vasudevan et al., 2006).

To provide a more inclusive typology of switching costs, Burnham el al. (2003) proposed and validated a higher-order three-factor scale of switching costs to encompass eight first-order factors (procedural switching costs—economic risk, evaluation, learning, and set-up; financial switching costs—benefit loss and monetary loss; relational switching costs—personal relationship loss and brand relationship loss).

Economic risk costs are the perceived risks (e.g., receiving poor service, encountering hidden fees) associated with switching from a known to an unknown service provider (Burnham et al., 2003; Chebat et al., 2011). Evaluation costs are the time and effort associated with customers searching for and evaluating alternative service providers (Jones et al., 2002). Learning costs involve the time and effort customers invest to acquire new skills and/or reach the same level of knowledge as with the previous service in order to use the new service effectively (Chen and Hitt, 2002; Jones et al., 2002). Set-up costs are associated with starting a service transaction for the first time (e.g., filing forms, explaining specific needs) (Jones et al., 2002). Customers incur these costs each time they select a new service provider (Guiltinan, 1989). Benefit loss costs are associated with terminating an existing relationship (e.g., losing repeat purchase discounts or special treatment), which creates economic incentives to stay with a provider (Guiltinan, 1989). Monetary loss costs are the one-off financial outlays or penalties (e.g., redemption fees) that customers incur in switching providers (Heide and Weiss, 1995; Klemperer, 1995). Personal relationship loss costs involve lost social bonds between a customer and employees (Guiltinan, 1989; Klemperer, 1995). Some researchers, however, view social bonds as a distinct construct from switching costs (e.g., Gremler, 1995), rather than a facet of switching costs (e.g., Burnham et al., 2003; Sharma and Patterson, 2005). Brand relationship loss costs are relational bonds (Aaker, 1992; Porter, 1980) between the customer and a particular service brand or company that can be lost in switching (Burnham et al., 2003).

Although the two empirical typologies of customers' perceived switching costs may seem similar, close examination of the conceptualization of each dimension reveals an important difference. Economic risk costs are similar to uncertainty costs: both involve perceived risk associated with a new service provider's performance. Evaluation costs are similar to pre-switching search and evaluation costs, as both refer to the time and effort spent before switching to identify an appropriate service alternative. Learning costs are similar to post-purchase behavioral and cognitive costs, as both refer to the time and effort spent after switching to learn how to use the new service provider's systems and routines. Benefit loss and monetary loss costs are similar to lost performance costs; both refer to the loss of benefits and advantages upon switching. Set-up costs are identical in both typologies; they are the costs associated with starting a new service transaction for the first time. However, although

sunk costs could be viewed as a necessary part of personal loss and brand loss costs, as they refer to the time and effort invested in building and cultivating a relationship, they do not explicitly capture the loss of established social and relational bonds with a service provider or brand. Thus, this study focuses on Burnham et al.'s (2003) typology—the most comprehensive (see Table 1), parsimonious (Jones et al., 2007), and most cited typology in marketing (933 versus 529 citations for Jones et al. 2002) (Google, 2014).

Method

Measures

Churchill's (1979) traditional approach to scale development was used. Therefore, to develop a cross-cultural PSCs scale, a literature review of customers' perceived switching costs was conducted, as were in-depth interviews and survey pre-tests. Previous research recommendations (e.g., Cadogan et al., 2001; Hult et al., 2008) were followed to ensure conceptual, functional, translation, sample, and data collection equivalence.

Conceptual and functional equivalence

To test for conceptual and functional equivalence (i.e., whether the PSCs scale has the same meaning and function across cultures), 12 in-depth interviews with a purposive sample of banking customers in the United Kingdom, Egypt, Germany, and China were conducted. The chosen respondents had adequate banking experience and a reasonable services profile in terms of the range of service products. This ensures sufficient variability in the sample and allows for a better understanding of this concept in the different countries. Respondents in all four countries defined switching costs similarly to Burnham et al. (2003). There were some minor differences in classifying switching costs, but no items were deleted from the original scale, to better compare results quantitatively across countries. Moreover, differences did not seem to be significant, as the broad meaning of switching costs was similar across countries.

Translation equivalence

To ensure translation equivalence (i.e., that translated questions convey the same meaning across cultures), three bilingual researchers fluent in Arabic, Chinese, and German forward-translated the original English version of the scale (30 questions). Three other bilingual researchers then back-translated the scale to English and compared it to the original (Brislin et al., 1973; Craig and Douglas, 2005; Lonner and Berry, 1986). In general, the researchers resolved translation differences, but when necessary, another three independent research assistants compared the back-translated scales with the original scale and verified that the two did not differ significantly (Schertzer et al., 2008). The translated scales (30 items) were pre-tested with 35 respondents in each country to ensure that the English meaning of various concepts, phrases, and words was equivalent in Arabic, Chinese, and German. Respondents were asked to record the name of their main bank or building society and to answer questions with that entity in mind. Respondents rated their agreement with the questions on seven-point Likert-type scales (1 = "strongly disagree", 7 = "strongly agree"). The results indicated that some items required minor modifications to ensure clarity and ease of use (Bensaou et al., 1999).

Sample and data collection equivalence

Data was collected from the United Kingdom, Egypt, Germany, and China using convenience sampling, allowing for the results to be generalized to other similar countries. The four countries have important cultural and economic differences. They are culturally distinct, and each represents a different level of individualism-collectivism on Hofstede's (2012) dimension. This dimension has a strong role in 52% of cross-cultural studies (Engelen and Brettel, 2011); it has also received the most attention and is the dimension most relied on across disciplines (e.g., Jin et al., 2008; Seock and Lin, 2011). The United Kingdom and

Germany show high individualism and low collectivism (89 and 67, respectively). In contrast, Egypt and China show low individualism and high collectivism (25 and 20, respectively). In terms of economic development, the United Kingdom and Germany are considered "developed", whereas Egypt and China are "emerging" (Central Intelligence Agency, 2014).

The retail banking industry has two characteristics conducive for testing the PSCs scale. First, it is similar to the service industry used in Burnham et al.'s (2003) study (i.e., credit card providers), which is important, as more attention can be focused on cultural differences. Second, industry customers perceive different levels of switching costs, which allows for more reliable scale testing. For example, customers' perceptions of switching costs are high for stocks and investment shares, low to medium for current accounts, and low for mortgages (El-Manstrly, 2010). This variability is important in order to avoid any bias (e.g., monopoly) created by market structures (Burnham et al., 2003).

A sample size should be five times greater than the number of indicator variables (Bentler and Chou, 1987). Thus, with a scale of 30 indicator variables, the minimum sample size was 150 questionnaires. However, a larger sample size (> 150) from each country was targeted, to test the scale independently in each country (Rungtusanatham et al., 2008). Quota sampling was used to select respondents by age and gender, in order for the sample to represent each country's population well. Two thousand questionnaires were distributed (500 for each country), resulting in a total of 1079 usable questionnaires (United Kingdom = 290, Egypt = 317, Germany = 247, and China = 225). The total response rate was as follows: United Kingdom, 58%; Egypt, 63.4%; Germany, 49.9%; and China, 45%.

In the United Kingdom, 52% of respondents were male and 48% female (similar to the UK's overall sex ratio), and 68% were between age 19 and 39 (median age = 40.3 years) (Central Intelligence Agency, 2014). In Egypt, 60% of respondents were male and 40% female (similar to Egypt's overall sex ratio), and 68% were between age 19 and 39. The median age for the sample was slightly higher than Egypt's median age of 24.8 years (Central Intelligence Agency, 2014). This possibly reflects literacy levels in Egypt among the middle-aged population, as most respondents were in that age category. Collecting data using questionnaires in emerging countries such as Egypt requires that respondents have a minimum level of literacy; that of Egypt is around 73.9% (Central Intelligence Agency, 2014). Also, Engelen and Brettel (2011) acknowledge that empirical research is scarce and difficult for some North African countries. In Germany, 39% of respondents were female and 61% male (similar to Germany's overall sex ratio), and 55% were between age 19 and 39. The median age for the sample was slightly lower than Germany's median age of 45.7 years (Central Intelligence Agency, 2014). In China, 42% of respondents were female and 58% male (similar to China's overall sex ratio), and 69% were between age 19 and 39 (median age = 36.3 years) (Central Intelligence Agency, 2014).

A one-way analysis of variance (ANOVA) was conducted to ensure that there were no large demographic differences in age and gender between the four countries, and no significant differences were found ($p < 0.05$). Therefore, one could conclude that the samples are comparable. This is important, because it must be determined whether any observed differences in scale invariance results are due to problems in the scale itself or to differences in sample characteristics (Schertzer et al., 2008).

Results

Non-response bias was assessed by examining the differences between early and late respondents with regard to the means of all variables of interest (Armstrong and Overton, 1977). No significant differences were found between early and late respondents,which suggests that non-response bias was not a significant problem in the study. To minimize the risk of common method bias, respondents were not told the specific purpose of the study, and all measures were mixed and presented randomly (Sousa and Lages, 2011). Confirmatory factor analysis (CFA) model fit indexes for a single-factor model (Podsakoff and Organ, 1986) indicated poor fit (Comparative Fit Index [CFI] = 0.59; Tucker-Lewis Index [TLI] = 0.53; Root Mean Square Error of Approximation [RMSEA] = 0.16; and Standardized Root Mean Square Residual [SRMR] = 0.13). Thus, the results suggest that common method bias does not exist.

Using Amos 21, the analysis included three phases: first, CFA was used to assess the factor structure of the PSCs scale; second, the psychometric properties of the revised PSCs scale were assessed; third, measurement invariance was tested (Payne et al., 2010). Maximum likelihood estimation was used in all three phases (Byrne, 2010). Model fit was assessed by normed χ^2, CFI, TLI, RMSEA, and SRMR. These measures are widely used to evaluate measurement scales in cross-cultural research (Netemeyer et al., 1991; Steenkamp and Baumgartner, 1998). Moreover, they are less sensitive to sample size than the χ^2 test and account for model complexity. CFIs and TLIs of ≥ 0.90, RMSEAs of ≤ 0.08, and SRMR of ≤ 0.06 indicate good model fit (Hair et al., 2006).

Phase 1: Assessment of factor structure and scale reduction

A CFA with an eight-factor structure provided poor fit ($\chi^2 = 3153.59$, df = 1508, $p < 0.00$, CFI = 0.85, RMSEA = 0.03, and SRMR = 0.07), and many items had low factor loadings. Moreover, SPSS-based principal-axis factor analyses revealed a five-factor structure (rather than eight factors) with eigenvalues greater than 1.0 and poor factor loadings and cross-loadings. Possible explanations for low item loadings may be confusing items (Swain et al., 2008), cultural specificity of certain items (Douglas et al., 2003), or items cross-loading on other theoretically unrelated constructs. The results suggest that a reduction of the original scale is necessary (Ruvio et al., 2008). Furthermore, examination of relevant literature revealed that although several papers cite Burnham et al.'s (2003) PSCs scale, few fully implement it (Google, 2014). This might be because of the scale's length, as lengthy scales may be more difficult to use in studies with many variables and may result in redundancy between closely related items (Ruvio et al., 2008).

Scale reduction was based on an examination of items' phrasing, factor loadings, standardized residuals, and contribution to overall model fit (e.g., based on modification indexes associated with removing the item) (Hair et al., 2006). Three marketing experts reviewed phrasing and retained broadly worded items (Ruvio et al., 2008). Therefore, context-specific items (e.g., those that appeared to be redundant or confusing) were eliminated, as some cultures are reluctant to endorse negative statements (Ralston and Pearson, 2010). Moreover, items with low factor loadings, residual values > |4|, and a high modification index were also dropped. The final measurement model consists of 5 factors and 16 items for each country. This shorter version of the PSCs scale (PSCs-S) was used in all subsequent tests.

Phase 2: Assessment of scale validity

Convergent validity refers to the extent to which individual items in a construct share variance among themselves (Hair et al., 2006). Convergent validity is evident for all five

constructs across the four countries—all factor loadings were significant ($p < 0.001$) and ≥ 0.40 (Bettencourt, 2004) (see Table 2).

Insert Table 2 about here

As shown in Table 3, all five constructs exhibit satisfactory reliability levels; all reliability values were ≥ 0.60 (Bagozzi and Yi 1988), and the lowest was 0.69. Average variance extracted (AVE) values were ≥ 0.50 (Fornell and Larcker, 1981). Discriminant validity is the extent to which constructs are distinct or one-dimensional (Hair et al., 2006); it is evident here because all AVEs were greater than the corresponding squared interconstruct correlations (SICs) (Fornell and Larcker, 1981), there was no cross-loading between items, and the normed χ^2 was less than the suggested cutoff of 3.0 (Hu and Bentler, 1995). The results confirm nomological validity across the four countries: correlations for most constructs (69 of 84) are significant and consistent with theory (Peter, 1981).

Insert Table 3 about here

In line with Churchill's (1995) recommendations, to further test the nomological validity of the PSCs scale, the relationships between the five dimensions of the scale and another theoretically related constructs (e.g., customer loyalty) were tested in one model for all four countries. There are adequate theoretical and empirical reasons to expect positive relationships among the five dimensions of perceived switching costs and customers' attitudinal and behavioral loyalty (El-Manstrly et al., 2011). As the complexity of the switching process increases, customers tend to be loyal in a behavioral sense, not an attitudinal one (i.e., spurious loyalty) (Barroso and Picón, 2012). Behavioral and attitudinal loyalty were measured using 4 items each (see Table 2), drawn and adapted from the service loyalty scale developed and validated by El-Manstrly and Harrison, (2013). The items for attitudinal loyalty measure the extent to which customers intend to repeat their purchase behavior pattern, and the items for behavioral loyalty measure customers' previous purchases from a service brand (Oliver, 1999).

The model provided good fit ($\chi^2 = 1074.66$, df = 232, $p < 0.05$; CFI = 0.93, TLI = 0.92, RMSEA = 0.06, and SRMR = 0.05) (Hair et al., 2006). All path coefficients (except one) between the five dimensions of the PSCs-S scale and attitudinal loyalty, and all path coefficients (expect two) between the five dimensions of the PSCs-S scale and behavioral loyalty, were positive and significant (at $p < 0.05$). More specifically, there were positive, significant paths between economic risk costs (ERC), evaluation costs (EVC), personal loss costs (BLC), brand loss costs (BLC), and attitudinal loyalty (b = 0.18, b = 0.09, b = 0.16, and b = 0.67, respectively). Similarly, there were positive, significant paths between evaluation costs (EVC), personal loss costs (BLC), brand loss costs (BLC), and behavioral loyalty (b = 0.16, b = 0.13, and b = 0.73, respectively). In summary, the recommended guidelines for convergent, discriminant, and nomological validity were met, indicating acceptable model validity.

Phase 3: Assessment of measurement invariance

Testing for invariance involves several forms of applying stringent and weak levels of measurement invariance, depending on the goal of the research (Steenkamp and

Baumgartner, 1998). As the goal of the current research is to make meaningful cross-cultural comparisons, measurement invariance was tested using multi-group CFA in the following order: configural invariance, metric invariance, and factor variance invariance. Steenkamp and Baumgartner (1998, p. 82) have stated that metric invariance is needed when the purpose of the research is "to relate the focal construct to other constructs in a nomological net," whereas factor variance invariance is needed in addition to metric invariance when the research aims "to compare standardized measures of associations (correlation coefficients, standardized regression coefficients) across countries."

There is general agreement that multi-group CFA analysis is the most powerful and versatile approach for testing cross-cultural measurement invariance (Steenkamp and Baumgartner, 1998; Vandenberg and Lance, 2000). Model comparisons were made by examining χ^2 difference (Byrne, 2010), change in normed χ^2 ($\Delta\chi^2$/df) (Schertzer et al., 2008), and change in CFI (ΔCFI). Cheung and Rensvold (2002) recommend using (ΔCFI) to evaluate measurement invariance because it is not correlated with overall fit measures and is independent of sample size and model complexity: "a value of ΔCFI smaller than, or equal to, –0.01 indicates that the null hypothesis of invariance should not be rejected" (p. 251).

Configural invariance

The minimum requirement for the PSCs-S scale to be invariant across cultures is the five-factor model providing adequate fit across all four countries simultaneously. Configural invariance (Table 4: Model 1) was tested without imposing constraints on any of the four countries. This unconstrained model establishes the baseline model for comparison with subsequent models. This test resulted in acceptable model fit statistics. Although χ^2 was statistically significant (χ^2 (376) = 745.16, p = 0.00), as expected for a sample size of 1079, all other fit indexes (CFI = 0.94, TLI = 0.92, RMSEA = 0.03, SRMR = 0.05, and normed χ^2 = 1.98) were within recommended guidelines (Hair et al., 2006) (see Table 4). Thus, the results indicate that the PSCs-S scale exhibits adequate factor structure equivalence (i.e., it has the same number of dimensions and items) across the four countries.

Insert Table 4 about here

Metric invariance

Once configural invariance is established, metric invariance can be tested. If metric invariance is confirmed, "different scores on the items can be meaningfully compared across countries" (Schertzer et al., 2008, p. 319). Furthermore, metric invariance is essential for meaningful cross-group comparison (Cheung and Rensvold, 2002). Metric invariance (Table 4: Model 2) was tested by constraining the factor loadings of the baseline model to be equal across the four countries, which resulted in acceptable fit statistics. Although χ^2 is statistically significant (χ^2 (409) = 843.93, p = 0.00), all other fit indexes (CFI = 0.93, TLI = 0.91, RMSEA = 0.03, SRMR = 0.05, and normed χ^2 = 2.06) were acceptable (Hair et al., 2006) (see Table 4). Model comparisons indicate that although the χ^2 difference test between the two nested models (i.e., configural vs. metric) was significant ($\Delta\chi^2$ = 98.7, Δdf = 33, p < 0.001), ΔCFI (0.01) was insignificant, and the change in normed χ^2 ($\Delta\chi^2$/df = 0.08) was still less than the acceptable cutoff of 3 (Hu and Bentler, 1995). Thus, the results provide support for full metric invariance across the four countries and suggest that perceived switching costs are similarly manifested across the four countries (i.e., respondents interpreted the items in the same way) (Byrne, 2010). Thus, the PSCs can be related to other constructs in a nomological net.

As this study does not aim to compare factor means, support for scalar invariance is not needed to proceed to the next test. However, it is appropriate to explore the results of imposing extra constraints.[1]

Factor variance invariance

Factor variance invariance tests whether constructs' variability is the same across countries (i.e., the same score spread for each scale item across groups). Factor variance invariance was tested (Table 4: Model 3) by constraining all factor loadings and factor variances to be equal across the four countries. Although χ^2 was statistically significant (χ^2 (424) = 866.19, p = 0.001), all other fit indexes provided satisfactory fit (CFI = 0.92, TLI = 0.91, RMSEA = 0.03, SRMR = 0.06, and normed χ^2 = 2.09). Further, the χ^2 difference test between the two nested models (i.e., metric vs. factor variance) was insignificant ($\Delta\chi^2$ = 22.06, Δdf = 15, p > 0.001), ΔCFI was insignificant compared to the metric model (ΔCFI = 0.01), and change in normed χ^2 ($\Delta\chi^2$/df = 0.03) was still less than the acceptable cutoff of 3 (Hu and Bentler, 1995). Thus, the results provide support for full factor variance invariance and suggest that correlation coefficients and the standardized regression coefficients between switching costs and other variables can be compared (Table 5).

Items for measuring attitudinal and behavioral loyalty were also examined for measurement invariance. The results provide support for configural invariance. Although χ^2 was statistically significant (χ^2 (76) = 250.69, p = 0.00), all other fit indexes (CFI = 0.96, TLI = 0.94, RMSEA = 0.05, SRMR = 0.06, and normed χ^2 = 3.30) were within recommended guidelines (Hair et al., 2006) (Table 4: Model A). Full metric invariance was also supported. Although χ^2 is statistically significant (χ^2 (94) = 294.27, p = 0.00), all other fit indexes (CFI = 0.95, TLI = 0.95, RMSEA = 0.05, SRMR = 0.05, and normed χ^2 = 3.13) were acceptable (Hair et al., 2006) (Table 4: Model B). Model comparisons indicate that although the χ^2 difference test between the two nested models (i.e., configural vs. metric) was significant ($\Delta\chi^2$ = 43.59, Δdf = 18, p < 0.001), ΔCFI (0.01) was insignificant, and the change in normed χ^2 ($\Delta\chi^2$/df = 0.17) was still less than the acceptable cutoff of 3 (Hu and Bentler, 1995). In addition, the results provide support for full factor variance invariance. Although χ^2 was statistically significant (χ^2 (100) = 329.39, p = 0.001), all other fit indexes provided satisfactory fit (CFI = 0.95, TLI = 0.94, RMSEA = 0.05, SRMR = 0.06, and normed χ^2 = 3.29). Further, although the χ^2 difference test between the two nested models (i.e., metric vs. factor variance) was significant ($\Delta\chi^2$ = 35.11, Δdf = 6, p > 0.001), ΔCFI was insignificant compared to the metric model (ΔCFI = 0.00), and change in normed χ^2 ($\Delta\chi^2$/df = 0.16) was still less than the acceptable cutoff of 3 (Hu and Bentler, 1995) (Table 4: Model C).

Insert Table 5 about here

Discussion and concluding remarks

This study's results confirm five key findings. Crucially, this study concludes that PSCs should be modelled as a five independent first-order reflective constructs, rather than a second-order reflective construct. In addition, it finds that a five-factor (rather than eight-factor) PSCs structure currently exists across all four countries; that the PSCs-S scale items manifest in the same way; that the variability of the PSCs-S scale factors is similar across the

[1] Testing for scalar invariance by constraining factor loadings and item intercepts provided poor fit (χ^2 (457) = 1707.26, p < 0.00, CFI = 0.78, TLI = 0.77, RMSEA = 0.05, and SRMR = 0.06); thus, scalar invariance was not supported.

countries; and that relationships between the PSCs scale and customers' attitudinal and behavioral loyalty vary across the four countries.

This paper provides empirical evidence to support modelling PSCs as a five independent first-order reflective constructs rather than as a second-order reflective construct. Due to the fact of each of the five dimensions of switching costs containing items that capture only one facet/dimension, the dimensions are non-redundant and not interchangeable. Lee and Cadogan (2013) argue that higher-order reflective constructs are misleading, meaningless and invalid when the first-order constructs are conceptually distinct. They therefore call on researchers to adopt a clean conceptual approach when modelling reflective constructs, which may have different antecedents and outcomes and in turn different managerial implications. Thus, based on the results of this study and Lee and Cadogan's (2013) recommendations, future marketing researchers should avoid modelling PSCs as a second-order reflective construct that captures different facets as this common practice does not meet the basic premise of measurement theory.

Lack of support for the eight-factor structure of the PSCs scale is notable. Although conceptualization of the costs of economic risk, evaluation, benefit loss, personal loss, and brand loss is comparable across the four countries (Cheung and Rensvold, 2002; Steenkamp and Baumgartner, 1998), perception of these types of costs is not necessarily related to perception of other types of switching costs. Barroso and Picón (2012) argue that although some customers might be aware of costs associated with terminating existing relationships (e.g., benefit loss costs), they might not be aware of costs associated with starting a new relationship (e.g., set-up, learning), or they may not incur specific types of costs (e.g., evaluation or monetary loss). Also, some switching costs may be context specific, so that the meaning, nature, or magnitude of the costs differs across countries. For example, because of variations in literacy (Central Intelligence Agency, 2014) and uncertainty avoidance (Hofstede, 2012), customers in developed countries may perceive low or no learning costs in comparison to customers in developing countries.

The equal strength of relationships between items and their underlying constructs across the four countries indicates that more comprehensive PSCs frameworks can be developed and tested by relating the PSCs-S scale to other constructs in a nomological net (Cheung and Rensvold, 2002; Steenkamp and Baumgartner, 1998). This would provide a better understanding of the interrelationships between different types of PSCs and other antecedents and consequences across the countries. Equal variability of the PSCs-S scale across the four countries indicates that correlations and regression coefficients between PSCs and other theoretically related constructs are comparable (Cheung and Rensvold, 2002; Steenkamp and Baumgartner, 1998), which further enhances our understanding of cultural differences.

Furthermore, the results also indicate that the relationships between the PSCs-S scale and attitudinal and behavioral loyalty differ across the four countries. More specifically, economic risk costs are positively and significantly correlated with attitudinal loyalty in Egypt, Germany, and China, and with behavioral loyalty in the UK, Egypt and China; indicating that intended and actual repurchase behaviors of Egyptian and Chinese customers are more likely to be influenced by the perceived risks associated with switching, whereas this is less likely for German and British customers. This confirms previous findings (e.g., Barroso and Picón, 2012; Burnham et al., 2003; Chebat et al., 2011; Jones et al., 2002) of a significant relationship between economic risk or uncertainty costs, and behavioral and attitudinal loyalty. It is possible that in individualistic cultures with low uncertainty avoidance (United Kingdom and Germany), customers are less likely to perceive high risk in switching service providers than customers in collectivistic cultures with high uncertainty avoidance (Egypt

and China). Interestingly, the results indicate that British consumers' perception of economic risk costs is more likely to influence their behavioral, rather than attitudinal, loyalty whereas German consumers' perception of economic risk costs is more likely to influence their attitudinal rather than behavioral loyalty. A possible explanation is that British consumers' perception of economic risk costs is lower compared to that of German consumers. The United Kingdom scores low on Hofstede's (2012) uncertainty avoidance dimension (society's tolerance for uncertainty and ambiguity) compared to Germany (26 and 55, respectively), thus perceived risk is less likely to influence British consumers' attitudinal loyalty compared to German consumers. The results also suggest that because Germany is particularly high on this dimension, German consumers can be more reliant than British consumers on other variables in forming their behavioral loyalty (e.g., firm reputation, sense of duty and obligation).

Evaluation costs are positively and significantly correlated with attitudinal loyalty in Egypt, Germany, and China, and with behavioral loyalty in the UK, Egypt, Germany, and China. As Egyptian, German, and Chinese customers' perceptions of losing time and effort in searching for alternatives increase, their intended and actual repurchase behaviors increase. This is consistent with previous findings of a significant relationship between evaluation costs and attitudinal loyalty (Barroso and Picón, 2012; Burnham et al., 2003; Patterson and Smith, 2003). Interestingly, despite significant and positive correlation between evaluation costs and behavioral loyalty, an unexpected insignificant correlation between evaluation loss and attitudinal loyalty was found in the United Kingdom. This is consistent with the previous finding of an insignificant relationship between contractual costs, evaluation costs, and attitudinal loyalty (e.g., Barroso and Picón, 2012; Chebat et al., 2011; Jones et al., 2002). It is possible that given increased competition, the availability of information about competition and customers' indifference towards UK banks (El-Manstrly, 2010), British customers are less likely to incur evaluation loss costs, as most banks offer largely similar deals. Chebat et al. (2011) and Jones et al. (2002) argued that this insignificant association is due to standardization in the banking industry, the plethora of banking locations, and the banks' tendency to imitate each other's reward strategies. Benefit loss costs are positively and significantly correlated with attitudinal loyalty and behavioral loyalty in the UK, Egypt, Germany, and China. As British, Egyptian, German, and Chinese customers' perceptions of losing benefits increase, their intended and actual repurchase behaviors increase. This is consistent with previous findings of a significant relationship between benefit loss or the loss of performance costs and loyalty (Barroso and Picón, 2012; Burnham et al., 2003; Patterson and Smith, 2003).

Personal loss and brand loss costs are positively and significantly correlated with attitudinal and behavioral loyalty. This indicates that as British, Egyptian, German and Chinese customers' perceptions of losing a relational bond with service employees or brand increase, their intended repurchase behavior increases. This is consistent with previous findings of a significant relationship between personal relationship loss costs and attitudinal loyalty (e.g., Barroso and Picón, 2012; Burnham et al., 2003; Jones et al., 2002; Patterson and Smith, 2003). However, it is inconsistent with previous findings of insignificant relationships between sunk costs (related to interpersonal relationships) and actual behavioral loyalty (e.g., Chebat et al., 2011). A possible explanation is that banks may have developed strong relational bonds with their customers via their employees, CRM and brand activities, which significantly influences customer perceptions of sunk costs and behavioral loyalty.

This study extends existing (predominately mono-cultural) research (e.g., Burnham el al. 2003; Jones et al., 2002) on switching costs scales, and augments research (e.g., Chandrashekaran et al., 2007; Colgate et al., 2007) on the relationship between switching

costs and customer loyalty. The primary purpose is to develop a cross-cultural PSCs scale validated in one service industry across four countries. Despite the recognized need for invariance testing (Sass, 2011), no cross-cultural PSCs scale previously existed. This study contributes to consumer behavior and international marketing theory and practice in three ways. First, in terms of theory, it presents a cross-cultural scale useful to international marketing researchers. The revised 16-item scale (PSCs-S) could be used to gain a better understanding of PSCs across cultures and make meaningful cross-cultural comparisons, particularly between countries similar to those in this study. Moreover, this study adds to comparative marketing studies published by leading journals such as *International Marketing Review*, *Journal of Business Research*, and *Journal of International Marketing* (Cadogan, 2010). This study has developed the first cross-cultural validation of PSCs scales in marketing. Therefore, researchers could use the revised scale with confidence in order to improve their understanding of specific cultural differences. Although the scale is invariant across the four countries, individuals from some countries may still have different levels of perceived switching costs. Moreover, the revised PSCs-S scale can be used to compare relationships between PSCs and other related constructs. Second, in terms of methodology, the revised PSCs-S scale can help future researchers "decrease potential demand effect and hypothesis guessing" (Ruvio et al., 2008, p. 47), and it can enhance measurement applications in international markets (Schertzer et al., 2008), such as by measuring PSCs in other similar cultural and industrial contexts. Third, international marketing managers can use the revised PSCs-S scale to segment customers within and/or across cultures by types of PSCs, thus helping them design loyalty strategies. For example, in order to enhance customers' attitudinal and behavioral loyalty, international marketing managers should invest more resources in increasing customer perceptions of relational and benefit loss costs, and fewer resources in increasing perceptions of procedural switching costs. Moreover, they should make limited or no investment in increasing perceptions of financial switching costs— this plays a limited role in influencing switching behaviors, since banks tend to have lower financial switching costs (Chebat et al., 2011) or customers may feel locked in, which can lead to negative word of mouth.

Limitations and suggestions for future research

This study has some limitations that have the potential to lead to future research. First, the findings were validated across only four countries. This provides fertile ground for developing and testing the scale's cross-cultural equivalence; the results should hold in countries culturally and economically similar to those included here, but more research is needed to confirm the results. Second, there are potentially other switching costs to those measured in the current study (e.g., learning costs, set up costs), and invariant measures of those additional switching costs are warranted. Third, higher levels of invariance (scalar) would allow for comparisons of mean levels of PSCs across countries; thus, new scales or revised scales are needed. In terms of theory development, there are several fruitful areas for future researchers to focus on, including an examination of whether PSCs and consumer ethnocentrism are related, and in what ways; comparing PSCs' outcomes cross-nationally and across different product/service categories; and linking PSCs with national level variables (e.g., cultural variables) as well as individual level variables (e.g. personal characteristics/values).

References

Aaker, D. (1992), "The value of brand equity", *Journal of Business Strategy,* Vol.13, pp. 27-32.

Aaker, D. (2009), *Strategic Market Management*, Wiley, India.

Anderson, J. and Gerbing, D. (1988), "Structural equation modelling in practice: a review and recommended two-step approach", *Psychological Bulletin*, Vol. 103 No.3, pp.411-23.

Armstrong, J. and Overton, T. (1977), "Estimating nonresponse bias in mail surveys", *Journal of Marketing Research*, Vol. 14 No 3, pp. 396-402.

Aydin, S. and Özer, G. (2005), "The analysis of antecedents of customer loyalty in the Turkish mobile telecommunication market. *European Journal of Marketing*, Vol. 39 No.7/8, pp. 910-925.

Babin, B. and Griffin, M. (1998), "The nature of satisfaction: an updated examination and analysis," *Journal of Business Research,* Vol. 41 No. 2, 127-36.

Bagozzi, P. and Yi, Y. (1988), "On the evaluation of structural equation models", *Journal of the Academy of Marketing Science*, Vol. 16 No. 1, pp. 74-94.

Bansal, H., Irving, P. and Taylor, S. (2004), "A three-component model of customer commitment to service providers", *Journal of the Academy of Marketing Science*, Vol. 32 No. 3, pp.234-50.

Beerli, A., Martin J. and Quintana A. (2004), "A model of customer loyalty in the retail banking context", *European Journal of Marketing*, Vol. 38 No.1/2, pp. 253-275.

Beggs, A. and Klemerer, P. (1992), "Multi-period competition with switching costs," *Econometrica,* Vol. 60 No. 3, pp. 651-66.

Bensaou, M., Michael, C. and Venkatraman, N. (1999), "Testing metric equivalence in cross-national strategy research: an empirical test across the United States and Japan," *Strategic Management Journal*, Vol. 20 No. 7, pp. 671-89.

Bentler, P. and Chou, C. (1987), "Practical issues in Structural Modeling", *Sociological Methods and Research*, Vol. 16 No. 1, pp. 78-117.

Berry, J. (1969),"On the cross-cultural comparability", *International Journal of Psychology*, Vol. 4 No. 4, pp. 119-28.

Bettencourt, L. (2004), "Change-oriented organizational citizenship behaviors: the direct and moderating influence of goal orientation", *Journal of Retailing*, Vol. 80 No. 3, pp. 165-80.

Blut, M., Evanschitzky, H., Vogel, V. and Ahlert, D. (2007), "Switching barriers in the four-stage loyalty model", *Advances in Consumer Research*, Vol. 34, pp. 726- 34.

Brislin, R., Walter, J., and Robert, M. (1973), *Cross-cultural Research Methods*, Wiley, New York.

Burnham, T., Judy, K. and Vijay, M. (2003), "Consumer switching costs: a typology, antecedents, and consequences", *Journal of the Academy of Marketing Science*, Vol. 31 No. 2, pp. 109-26.

Byrne, B. (2010), *Structural Equation Modelling with AMOS: Basic Concepts, Applications, and Programming*, (2nd ed.), Routledge, East Sussex.

Cadogan, J. (2010), "Comparative, cross-cultural, and cross-national research: a comment on good and bad practice", *International Marketing Review*, Vol. 27 No. 6, pp. 601-605.

Cadogan, J., Diamantopoulos, A. and Mortanges, C. (1999), "A measure of export market Orientation: scale construction and cross-cultural validation", *Journal of International Business Studies*, Vol. 30 No. 4, pp. 689- 707.

Cadogan, J., Paul, N., Salminen, R., Puumalainen, K. and Sundqvist, S. (2001), "Key antecedents to "export" market-oriented behaviors: a cross-national empirical examination", *International Journal of Research in Marketing*, Vol. 18, pp. 261-282.

Central Intelligence Agency (2014), "The World Factbook", available at: https://www.cia.gov/library/publications/the-world-factbook/fields/2075.html (accessed 06 February 2014).

Chandrashekaran, M., Rotte, K., Tax, S. and Grewal, R. (2007), "Satisfaction strength and customer loyalty", *Journal of Marketing Research*, Vol. 44 (February), pp. 153-163.

Chebat, J., Davidow, M. and Borgers, A. (2011), "More on the role of switching costs in service markets: a research note", *Journal of Business Research*, Vol. 64, pp. 823-829.

Chen, P. and Hitt, L. (2002), "Measuring switching costs and the determinants of customer retention in Internet-enabled business: a study of the online brokerage industry," *Information Systems Research*, Vol. 13 No. 3, pp. 255-74.

Cheung, G. and Rensvold, R. (2002), "Evaluating Goodness-of-fit indices for testing measurement invariance", *Structural Equation Modeling*, Vol. 9, pp. 233-55.

Chiu, Y., Lin, C. and Tang, L. (2005), "Gender differs: assessing a model of online purchase intentions in e-retail service", *International Journal of Service Industry Management*, Vol. 16 No. 5, pp.416-35.

Churchill (1995), *Marketing Research: Methodological Foundation*. (6th ed.), The Dryden Press, Orlando.

Churchill, G. (1979), "A Paradigm for Developing better Measures of Marketing Constructs", *Journal of Marketing Research*, 16, pp.64-73.

Colgate, M., Tong, V., Lee, C. and Farley, J. (2007), "Back from the brink: why customers stay", *Journal of Service Research,* Vol. 9 No. 3, pp. 211-228.

Craig, C. and Douglas, S. (2005), *International Marketing Research*, 3rd ed., John Wiley & Sons Ltd, Chichester.

Craig, C. and Douglas, S. (2000), *International Marketing Research*, John Wiley and Sons, Chichester.

De Chernatony, L. and Riley, D.O. (1999), "Experts' views about defining services brands and the principles of services branding", *Journal of Business Research*, Vol. 46, pp. 181–192.

Dick, A. and Basu, K. (1994), "Customer loyalty: toward an integrated conceptual framework," *Journal of the Academy of Marketing Science*, Vol. 22 No. 2, pp. 99-113.

Dobree, J. and Page, A. (1993), "Unleashing the power of service brands in the 1990s", *Management Decision*, Vol. 28 No.6, pp. 14-28.

Douglas, S., Craig, S. and Nijssen, E. (2003), "On the use of 'borrowed' scales in cross-national research: a cautionary note", *Journal of International Marketing*, Vol. 20 No. 6, pp. 621- 43.

El-Manstrly, D. (2010), *Examining the interrelationships between the four stages of customer loyalty: A mixed method approach*, PhD thesis, University of Glasgow, Glasgow, UK.

El-Manstrly, D. , Paton, R. , Veloutsou, C. and Moutinho, L. (2011), "An empirical investigation of the relative effect of trust and switching costs on brand loyalty in the UK retail banking industry", *Journal of Financial Services Marketing,* Vol. 16, No. 2, pp. 101-110.

El-Manstrly, D. and Harrison, T. (2013), "A critical examination of service loyalty measures, *Journal of Marketing Management*, Vol. 29, No. (15-16), pp. 1834-1861.

Engelen, A. and Brettel, M. (2011), "Assessing cross-cultural marketing theory and research", *Journal of Business Research*, Vol. 64, pp. 516-523.

Fornell, C. and Larcker, D. (1981), "Structural equation models with unobservable variables and measurement error", *Journal of Marketing Research,* Vol. 18 No. 1, pp. 39-50.

Gibson, C. (1995), "An investigation of gender differences in leadership across four countries", *Journal of International Business Studies*, Vol. 26 No. 2, pp. 225-79.

Google (2014), available at: https://www.google.co.uk/?gws_rd=cr&ei=GXzzUtOmEcex0AW7sIC4Aw#q=switching+costs+typology (accessed 06 February 2014).

Gounaris, S. (2005), "Trust and commitment influences on customer retention: insights from business-to-business services", *Journal of Business Research*, Vol. 58 No. 2, pp. 126-40.

Gremler, D. (1995), *The Effect of Satisfaction, Switching Costs and Interpersonal Bonds on Service Loyalty.* PhD thesis, Arizona State University.

Guiltinan, J. (1989), "A Classification of Switching Costs with Implications for Relationship Marketing", in Childers, T., Bagozzi, R. and Peter, J. (Ed), *1989 AMA Winter Educators Conference: Marketing Theory and Practice*, American Marketing Association , Chicago, pp. 216-20.

Gwinner, K., Gremler, D. and Bitner, M. (1998), "Relational benefits in service industries: the customer's perspective", *Journal of the Academy of Marketing Science*, Vol. 26 No. 2, pp.101-114.

Hair, J., Black, W., Babin, B., Anderson, R., and Tatham, R. (2006), *Multivariate Data Analysis*, (6th ed.), Prentice Hall, Upper Saddle River.

Heide, J. and Weiss, A. (1995), "Vendor consideration and switching behaviour for buyers in high-technology markets", *Journal of Marketing,* Vol. 59 (July), pp. 30-43.

Hellier, P., Geursen, G., Carr, R. and Rickard, J. (2003), "Customer repurchase intention, a general structural equation model", *European Journal of Marketing*, Vol. 37 (11/12), pp. 1762-800.

Hlavinka, K. (2011), "2030: a loyalty odyssey", *Journal of Consumer Marketing,* Vol.28 No. 3, pp. 234-238.

Hofstede, (2012), The Hofstede Centre, available at: http://geert-hofstede.com/countries.html, (accessed 11 December 2012).

Hu, L. and Bentler, P. (1995), "Evaluating model fit", in Hoyle, R. (eds.), *Structural Equation Modeling*, Thousand Oaks, Sage, CA, pp.76-99.

Hult, T., Ketchen, D., Griffith, D., Finnegan, C., Gonzalez-Padron, T., Hatmancioglu, N., Huang, Y., Talay, M. and Cavsgil, S. (2008), "Data equivalence in cross-cultural international business research: assessment and guidelines", *Journal of International Business Studies*, Vol. 39, pp. 1027-1044.

Jin, B., Park, J., and Kim, J. (2008), "Cross-cultural examination of the relationships among firms reputation, e-satisfaction, e-trust, and loyalty", *International Marketing Review*, Vol. 25 No. 3, pp. 324-37.

Jones, M. (1998), *Satisfaction and Repurchase Intentions in the Service Industry: The Moderating Influence of Switching Barriers*, Unpublished dissertation, University of Alabama.

Jones, M., Reynolds, K., Mothersbaugh, D., and Beatty, S. (2007), "The positive and negative effects of switching costs on relational outcomes", *Journal of Services Research*, Vol. 9 No. 4, pp. 335-55.

Jones, M., Mothersbaugh, D., and Beatty, S. (2002), "Why customers stay: measuring the underlying dimensions of services switching costs and managing their differential strategic outcomes", *Journal of Business Research*, Vol. 55 No. 6, pp. 441-45.

Klemperer, P. (1987), "Markets with consumer switching costs", *Quarterly Journal of Economics,* Vol.102 No.2, pp.375-94.

Klemperer, P. (1995), "Competition when consumers have switching costs: an overview with applications to industrial organization, macro-economics and international trade", *Review of Economic Studies*, Vol. 62, pp. 515-39.

Lages, L., Abrantes J. and Lages C. (2008), "The STRATADAPT scale: A measure of marketing strategy adaptation to international business markets", *International Marketing Review*, Vol. 25 No. 5, pp. 584-600.

Lam, S., Shankar, V., Erramilli, M. and Murthy, B. (2004), "Customer value, satisfaction, and switching costs: an illustration from business-to-business service context", *Journal of the Academy of Marketing Science*, Vol. 32 No. 3, pp.293-311.

Lee, N., and Cadogan, J. W. (2013), "Problems with formative and higher-order reflective variables", Journal of Business Research, Vol. 66, pp. 242-247.

Li, J. and Karakowsky, L. (2001), "Do we see eye-to-eye?: implications of cultural differences for cross-cultural management research", *Journal of Psychology: Interdisciplinary and Applied*, Vol. 135, pp. 501-17.

Lonner, W. and Berry, J. (1986), *Field Methods in Cross-cultural Research*, Sage, London.

Marshall, R., Huan, T-Z, Xu, Y., and Nam, I. (2011)," Extending prospect theory cross-culturally by examining switching behaviour in consumer and business-to-business contexts", *Journal of Business Research*, Vol. 64, pp. 871-878.

Methlie, L. and Nysveen, H. (1999), "Loyalty of on-line bank customers", *Journal of Information Technology*, Vol.14, pp.375-86.

Netemeyer, R. Dursavala, S. and Lichtenstein, D. (1991), "A cross-national assessment of the reliability and validity of the CETSCALE", *Journal of Marketing Research*, Vol. 28, pp. 320-7.

Oliver, R. (1999), "Whence Consumer Loyalty?", *Journal of Marketing*, Vol. 63 No.5, pp. 33-44.

Patterson, P. and Smith, T. (2003), A cross-cultural Study of switching barriers and propensity to stay with service providers, *Journal of Retailing,* Vol. 79 No. 2, pp.107-120.

Parameswaran, R. and Yaprak, A. (1987), "A cross-national comparison of consumer research measures", *Journal of International Business Studies*, Vol. 18 No. 1, pp. 35-49.

Payan, J., Svensson, G. and Hair, J. (2010), "A "cross-cultural RELQUAL-scale" in supplier-distributor relationships of Sweden and the USA", *International Marketing Review*, Vol. 27 No. 5, pp. 541-561.

Peter, J. (1981), "Construct Validity: A Review of Basic Issues and Marketing Practices", *Journal of Marketing Research*, 18, pp. 133-45.

Podsakoff, P. and Organ, D. (1986), "Self-reports in organisational Research: problems and perspectives", *Journal of Management*, Vol. 12 No. 4, pp. 531-44.

Porter, M. (1980), *Competitive Strategy: Techniques for Analysing Industries and Competitors*, The Free Press, New York, NY.

Raimondo, M., Miceli, G. and Costabile, M. (2008), "How relationship age moderates loyalty formation: the increasing effect of relational equity on customer loyalty", *Journal of Service Research*, Vol. 11 No. 2, pp. 142-160.

Ralston, D. and Pearson, A. (2010), "The Cross-Cultural Evolution of the Subordinate Influence Ethics Measure", *Journal of Business Ethics*, Vol. 96, pp. 149-168.

Ranaweera, C. and Prabhu, J. (2003), "The Influence of satisfaction, trust and switching barriers on customer retention in a continuous purchasing setting", *International Journal of Service Industry Management*, Vol. 14 No. 4, pp. 374-95.

Rauyruen, P. and Miller, K. (2007), "Relationships quality as a predictor of B2B customer loyalty", *Journal of Business Research*, Vol. 60, pp. 21-31.

Rungtusanatham, M., Ng, C., Zhao, Z. and Lee, T. (2008), "Pooling data across transparently different groups of key informants: measurement equivalence and survey research", *Decision Sciences*, Vol. 39 No. 1, pp. 115-139.

Ruvio, A., Shoham, A. and Brenčič, M. (2008), "Consumers' need for uniqueness: short-form scale development and cross-cultural validation", *International Marketing Review*, Vol. 25 No. 1, pp. 33-53.

Sass, D. (2011), "Testing measurement invariance and comparing latent factor means within a confirmatory factor analysis framework", *Journal of Psychoeducational Assessment*, Vol.XX No. X, pp. 1-17.

Scandura, T., Willliams, E. and Hamilton, B. (2001), "Measuring Invariance Using Confirmatory Factor Analysis and Item Response Theory: Perceptions of Organizational Politics in the United States and the Middle East", in Schriesheim, C. and Neider, L. (eds.), *Equivalence in Measurement*, Vol. 1 (Information Age Publishing, Greenwich, CT), pp. 00-130.

Schertzer, S., Laufer, D., Silvera, D., and McBride, J. (2008), "A cross-cultural validation of a gender role identity scale in marketing", *International Marketing Review*, Vol. 25 No.3, pp. 312 – 323.

Seock, Y. and Lin, C. (2011), "Cultural influence on loyalty tendency and evaluation of retail store attributes: An analysis of Taiwanese and American consumers", *International Journal of Retail & Distribution Management*, Vol. 39 No. 2, pp. 94-113.

Sharma, N. and Patterson, P. (2005), "Switching costs, alternative attractiveness and experience as moderators of relationship commitment in professional consumer services", *International Journal of Service Industry Management*, Vol. 11 No. 5, pp. 470-490.

Sirgy, J., Grewal, D. and Tamara, M. (2000), "Retail environment, self-congruity, and retail patronage", *Journal of Business Research*, Vol. 49 No. 2, pp. 127-38.

Sousa, C. and Lages, L. (2011), "The PD scale: a measure of psychic distance and its impact on international marketing strategy", *International Marketing Review*, Vol. 28 No. 2, pp. 201-222.

Steenkamp, J. and Baumgarthner, H. (1998), "Assessing measurement invariance in cross-national consumer research", *Journal of Consumer Research*, Vol. 25 No. 1, pp. 78-90.

Swain, D., Weathers, D., and Niedrich, R. (2008), "Assessing Three Sources of Misresponse to Reversed Likert Items", *Journal of Marketing Research*, Vol. 45 No.1, pp. 116-131.

Tsai, H., Huang, H., Jaw, Y. and Chen, W. (2006), "Why online customers remain with a particular e-retailer: an integrative model and empirical evidence", *Psychology and Marketing,* Vol. 23 No. 5, pp447-464.

Vandenberg, R. and Lance, C. (2000), "A review and synthesis of measurement invariance literature: suggestions, practices and recommendations for organizational research", *Organizational Research Methods*, Vol. 3 No. 1, pp. 4-69.

Vasudevan H., Gaur S. and Shinde, R. (2006), "Relational switching costs, satisfaction and commitment A study in the Indian manufacturing context", *Asia Pacific Journal of Marketing and Logistics*, Vol. 18 No. 4, pp. 342-353.

Zauberman, G. (2003), "The intertemporal dynamics of consumer lock-in", *Journal of Consumer Research,* Vol. 30 No.3, pp. 405-419.

Wang, C. (2010), "Service quality, perceived value, corporate image, and customer loyalty in the context of varying levels of switching costs", *Psychology and Marketing*, Vol. 27, No.3, pp. 252-262.

Whitten, D. and Wakefield, R. (2006), "Measuring switching costs in IT outsourcing services", *Strategic Information Systems*, Vol. 15, pp. 219-248.

Table 1: Literature review of selected studies on the operationalization of switching costs

Study	Context	Definition	Operationalisation
Jones et al. (2007, p. 337)	Range of online service providers	"The sacrifices or penalties consumers feel they may incur in moving from one provider to the next."	Switching costs as three-dimensional construct (social costs, lost benefit and procedural costs).
Blut et al. (2007, p. 727)	DIY retailer	"Any factor, which makes it more difficult or costly for consumers to change providers."	Switching barriers as a one-dimensional, multiple-item construct.
Chiu et al. (2005)	Banking industry	N/A	Relational bonds as a three- dimensional construct (financial, social and structural bonds).
Gounaris (2005, p. 129-130)	Consulting agency	"Structural bonds describe ties at corporate level that, if severed, incur considerable costs for the party responsible". "Social bonds include feelings of likeness, acceptance, friendship, social interactivity, etc."	Customer bonding as a two- dimensional construct (structural bond social and bonds).
Aydin and Özer (2005, p. 91)	Mobile phone industry	The cost involved in changing from one service provider to another."	Switching cost as a one-dimensional, multiple-item construct.
Lam et al. (2004, p. 295)	Courier industry	"The costs involved in changing from one supplier to another."	Switching costs as a one-dimensional, multiple-item construct.
Bansal et al. (2004)	Auto repair	N/A	Switching costs as a one-dimensional, multiple-item construct.
Beerli et al. (2004, p. 258)	Retail banking	"The technical, financial or psychological factors which make it difficult or expensive for a customer to change brand."	Switching costs as a one-dimensional, multiple-item construct.
Hellier et al. (2003, p. 1765)	Comprehensive car insurance and personal superannuation service	"The customer's estimate of the personal loss or sacrifice in time, effort and money associated with the customer changing to another service provider."	Switching costs as a one-dimensional, multiple-item construct.
Burnham et al. (2003, p. 110)	Credit card consumers and long-distance telephone consumers	"The onetime costs that consumers associate with the process of switching from one provider to another."	Switching costs as an eight dimensional construct (economic risk costs, learning costs, evaluation costs, set-up costs, monetary loss costs, benefits loss costs, brand loss costs and personal loss costs).
Jones et al. (2002, p. 441)	Banks and hairstylists	"Perceived economic and psychological costs associated with changing from one alternative to another."	Switching costs as a six-dimensional construct (loss performance cost, uncertainty costs, pre-switching search and evaluation costs, post-switching behavioral and cognitive costs, set-up costs, and sunk costs).
Methlie and Nysveen (1999)	Online banking industry	N/A	Switching costs as a two-dimensional construct (switching and search costs).

Table 2: Descriptive statistics and factor loadings for the four countries

Factors	Mean UK	Mean EG	Mean GR	Mean CH	SD UK	SD EG	SD GR	SD CH	Item loadings UK	Item loadings EG	Item loadings GR	Item loadings CH
Procedural switching costs												
Economic risk costs												
1. I worry that the service offered by other service providers won't work as well as expected.	4.21	3.83	3.99	4.47	1.24	1.85	1.55	1.45	0.64	0.74	0.60	0.51
2. Switching to a new service provider will probably involve hidden costs/charges.	4.22	5.33	4.17	5.12	1.46	1.47	1.82	1.51	0.68	0.66	0.81	0.81
3. I am likely to end up with a bad deal financially if I switch to a new service provider.	3.60	4.44	3.44	3.94	1.35	1.77	1.60	1.53	0.74	0.64	0.68	0.75
Evaluation costs												
1. I cannot afford the time to get the information to fully evaluate other service providers.	5.22	4.05	4.58	5.00	1.47	2.05	1.78	1.55	0.63	0.51	0.60	0.74
2. Comparing the benefits of my service providers with the benefits of other service providers takes too much time/effort, even when I have the information.	4.70	4.54	4.16	4.78	1.48	1.73	1.69	1.56	0.85	0.78	0.74	0.80
3. It is tough to compare the other service providers.	4.44	4.47	4.60	4.60	1.45	1.63	1.54	1.53	0.62	0.75	0.68	0.58
Financial switching costs												
Benefit loss costs												
1. Switching to a new service provider would mean losing or replacing points, credits, services, and so on that I have accumulated with my service provider.	4.21	5.20	4.24	4.93	1.34	1.52	1.70	1.65	0.86	0.69	0.81	0.71
2. How much you would lose in credits, accumulated points, services you have already paid for, and so on if you switched to a new service provider? (lose nothing…. lose a lot).	4.36	5.33	3.98	4.88	1.46	1.58	1.95	1.64	0.84	0.74	0.79	0.86
3. I will lose the benefits of being a long-term customer if I leave my service provider.	4.05	5.04	3.31	4.90	1.24	1.49	1.71	1.59	0.59	0.75	0.76	0.81
4. Switching to a new service provider would involve some up-front costs (set-up fees, membership fees, deposits, etc.)	4.26	5.26	3.60	5.02	1.26	1.42	1.54	1.48	0.41	0.66	0.43	0.72
Relational switching costs												
Personal relationship loss costs												
1. I would miss working with the people at my service provider if I switched providers.	3.11	4.81	2.33	3.59	1.65	1.65	1.79	1.64	0.79	0.54	0.88	0.74
2. I am more comfortable interacting with the people working for my service provider than I would be if I switched providers.	3.40	4.62	2.70	3.91	1.57	1.42	1.81	1.44	0.77	0.64	0.84	0.76
3. The people where I currently get my service matter to me.	3.30	5.17	2.36	4.20	1.58	1.59	1.71	1.51	0.84	0.82	0.86	0.69
4. I like talking to the other people where I get my service.	3.55	5.36	2.79	4.01	1.57	1.48	1.85	1.54	0.81	0.69	0.75	0.67
Brand relationship loss costs												
1. I like the public image my service provider has.	4.03	5.50	4.37	4.40	1.54	1.35	1.57	1.34	0.80	0.67	0.56	0.78
2. I support my service provider as a firm.	3.70	4.94	3.44	4.13	1.52	1.51	1.71	1.45	0.81	0.76	0.89	0.67

Table 2: Descriptive statistics and factor loadings for the four countries (continue)

Factors	Mean				SD				Item loadings			
	UK	EG	GR	CH	UK	EG	GR	CH	UK	EG	GR	CH
Attitudinal loyalty												
1. I am likely to say positive things about my service provider to other people.	4.15	2.47	4.47	4.75	1.31	1.57	1.57	1.28	0.67	0.80	0.77	0.75
2. I would recommend my service provider to someone who seeks my advice.	4.44	4.63	4.63	4.79	1.24	1.65	1.65	1.28	0.81	0.83	0.89	0.74
3. I intend to continue to use my service provider if its price increases somewhat.	4.24	4.53	4.53	4.75	1.25	1.58	1.58	1.33	0.86	0.89	0.86	0.72
4. I am likely to spend more money at my service provider than others.	4.47	4.86	4.86	4.85	1.22	1.59	1.59	1.36	0.79	0.87	0.87	0.84
Behavioral loyalty												
1. I say positive things about my service provider to other people.	3.37	2.97	2.97	4.17	1.52	1.73	1.73	1.37	0.77	0.64	0.70	0.64
2. I encourage friends and relatives to use my service provider.	4.76	5.06	5.06	4.68	1.21	1.60	1.60	1.34	0.63	0.79	0.55	0.81
3. I have spent more money at my service provider than at others.	3.81	3.30	3.30	4.42	1.48	1.80	1.80	1.43	0.84	0.80	0.83	0.80
4. I have bought more products and services from my service provider than from others	4.55	4.90	4.90	4.42	1.47	1.77	1.77	1.47	0.52	0.83	0.54	.074

Table 3: Convergent, discriminant and nomological validity of pre-invariance tests

Variable	1	2	3	4	5	6	7
UK							
1. ERC	**0.47**	0.14	0.25	0.02	0.00	0.00	0.02
2. EVC	0.37***	**0.50**	0.24	0.00	0.02	0.00	0.00
3. BNC	0.50***	0.49***	**0.49**	0.02	0.03	0.02	0.02
4. PLC	0.15	-0.09	0.15*	**0.64**	0.38	0.07	0.26
5. BLC	-0.05	-0.16	0.16*	0.62***	**0.65**	0.21	0.29
6. AL	0.09	0.05	0.13	0.26***	0.46***	**0.62**	0.21
7. BL	0.13	0.08	0.13	0.51***	0.54***	0.45***	**0.49**
Reliability	0.73	0.75	0.76	0.88	0.79	0.86	0.78
Egypt							
1. ERC	**0.46**	0.11	0.32	0.09	0.16	0.05	0.07
2. EVC	0.34***	**0.48**	0.08	0.03	0.07	0.07	0.10
3. BNC	0.57***	0.29***	**0.51**	0.18	0.06	0.07	0.03
4. PLC	0.30***	0.16*	0.43***	**0.46**	0.35	0.15	0.29
5. BLC	0.40***	0.26***	0.25***	0.59***	**0.51**	0.36	0.32
6.AL	0.23***	0.27***	0.26***	0.39***	0.60***	**0.65**	0.40
7.BL	0.27***	0.32***	0.17**	0.54***	0.57***	0.63***	**0.58**
Reliability	0.69	0.76	0.80	0.76	0.74	0.91	0.85
Germany							
1. ERC	**0.49**	0.17	0.21	0.12	0.00	0.09	0.02
2. EVC	0.41***	**0.46**	0.08	0.00	0.01	0.04	0.08
3. BNC	0.46***	0.29***	**0.51**	0.12	0.02	0.05	0.06
4. PLC	0.34***	0.07	0.35***	**0.69**	0.14	0.08	0.14
5. BLC	-0.05	0.11	0.13	0.37**	**0.55**	0.25	0.36
6.AL	0.30***	0.21**	0.22***	0.28**	0.50***	**0.72**	0.27
7.BL	0.15	0.28***	0.25***	0.38**	0.60***	0.52***	**0.47**
Reliability	0.74	0.71	0.79	0.90	0.77	0.91	0.75
China							
1. ERC	**0.49**	0.22	0.38	0.06	0.13	0.32	0.18
2. EVC	0.47***	**0.51**	0.22	0.04	0.12	0.34	0.17
3. BNC	0.62***	0.47***	**0.60**	0.15	0.14	0.38	0.30
4. PLC	0.24**	0.21**	0.39***	**0.51**	0.21	0.09	0.29
5. BLC	0.36***	0.35***	0.37***	0.46***	**0.53**	0.34	0.39
6.AL	0.57***	0.58***	0.62***	0.30***	0.58***	**0.58**	0.38
7.BL	0.43***	0.41***	0.55***	0.54***	0.63***	0.62***	**0.59**
Reliability	0.69	0.74	0.86	0.81	0.73	0.85	0.83

Notes: ERC = economic risk costs, EVC = evaluation costs, BNC= benefit loss costs, PLC = personal loss costs, BLC = brand loss costs, AL = attitudinal loyalty, BL = behavioral loyalty; left of the diagonal (bolded) is the correlation matrix; the value on the diagonal is the average variance extracted; right of the diagonal is squared correlations. All correlations are significant at $*p < 0.05$, $**p < 0.01$, $***p < .0.001$.

Table 4: Cross-cultural measurement invariance tests

Model	χ^2	*df*	χ^2/df	CFI	TLI	RMSEA (90% CI)	SRMR	Model Comparison	$\Delta\chi^2$	Δ df	ΔCFI	$\Delta\chi^2$/df	Conclusion
Switching costs													
M.1: Configural Invariance	745.16	376	1.98	0.94	0.92	0.03 (0.03,0.03)	0.05	-	-	-	-	-	Supported
M.2: Full Metric Invariance	843.93	409	2.06	0.93	0.91	0.03 (0.03,0.03)	0.05	M2-M1	98.77*	33	-0.01	0.08	Supported
M.3: Full Factor Variance Invariance	866.19	424	2.09	0.92	0.91	0.03 (0.03,0.03)	0.06	M3-M2	22.89	15	-0.01	0.03	Supported
Customer loyalty													
M.A: Configural Invariance	250.69	76	3.30	0.96	0.94	0.05 (0.04,0.05)	0.06	-	-	-	-	-	Supported
M.B: Full Metric Invariance	294.27	94	3.13	0.95	0.95	0.04 (0.04,0.05)	0.05	M2-M1	43.59*	18	-0.01	0.17	Supported
M.C: Full Factor Variance Invariance	329.39	100	3.29	0.95	0.94	0.05 (.04,0.05)	0.06	M3-M2	35.11*	6	0.00	0.16	Supported

Notes: Significant at *p < 0 .001

Table 5: nomological validity of post-invariance tests

Variable	1	2	3	4	5	6	7
UK							
1. ERC	**1**						
2. EVC	0.41***	**1**					
3. BNC	0.55***	0.52***	**1**				
4. PLC	0.19**	-0.03	0.17**	**1**			
5. BLC	-0.02	-0.09	0.16*	0.59***	**1**		
6. AL	0.14	0.12	0.18**	0.29***	0.47***	**1**	
7. BL	0.19**	0.15*	0.19**	0.52***	0.54***	0.52***	**1**
Egypt							
1. ERC	**1**						
2. EVC	0.33***	**1**					
3. BNC	0.64***	0.31***	**1**				
4. PLC	0.38***	0.17*	0.50***	**1**			
5. BLC	0.44***	0.25***	0.30***	0.63***	**1**		
6.AL	0.26***	0.26***	0.29***	0.41***	0.66***	**1**	
7.BL	0.30***	0.32***	0.22***	0.57***	0.68***	0.66***	**1**
Germany							
1. ERC	**1**						
2. EVC	0.39***	**1**					
3. BNC	0.43***	0.28***	**1**				
4. PLC	0.31***	0.05	0.30***	**1**			
5. BLC	-0.07	0.10	0.11	0.32***	**1**		
6.AL	0.27***	0.19*	0.18*	0.22***	0.46***	**1**	
7.BL	0.12	0.28***	0.23***	0.34**	0.59***	0.45***	**1**
China							
1. ERC	**1**						
2. EVC	0.68***	**1**					
3. BNC	0.57***	0.64***	**1**				
4. PLC	0.26***	0.22**	0.40***	**1**			
5. BLC	0.41***	0.39***	0.43***	0.67***	**1**		
6.AL	0.59***	0.59***	0.62***	0.36***	0.64***	**1**	
7.BL	0.46***	0.43***	0.57***	0.58***	0.68***	0.66***	**1**

Notes: ERC = economic risk costs, EVC = evaluation costs, BNC= benefit loss costs, PLC = personal loss costs, BLC = brand loss costs, AL = attitudinal loyalty, BL = behavioral loyalty. All correlations are significant at $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.